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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,687	06/08/2001	Koji Kawai	ZU-403	6447

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EXAMINER

RABAGO, ROBERTO

ART UNIT

PAPER NUMBER

1713

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/857,687

Applicant(s)

KAWAI ET AL.

Examiner

Rob Rábago

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 14-28 is/are pending in the application.
- 4a) Of the above claim(s) 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 20-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of group I in Paper No. 6 is acknowledged.

### ***Specification***

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Information Disclosure Statement***

3. The information disclosure statement filed 3/14/2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. EP-0-505-9077 has not been considered because no copy thereof has been provided.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Because these claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. These claims identify the metallocene structure and set forth negative limitations indicating components which are not made, but include nothing regarding any positive method steps which the claimed method comprises.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 8, 9, 20, 22, 23 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Alt et al. (J. Organometallic Chemistry (1998)).

The reference presents an extensive discussion of the structure, synthesis and use in polymerization of the complexes claimed instantly. Virtually all of the complexes shown at pages 93 and in Table 2 at pages 94-96 are within the claimed scope.

Description of ethylene and propylene polymerizations using such metallocenes are described in section 2.3 at pages 91-96, section 2.4 at pages 96-104 and in section 3.9, at pages 110-111. An extensive array of polymerization examples are shown at pages 97 through 109, with those comprising complexes 14, 15 and 16 as shown in Tables 3

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and 6 at pages 100 and 108 as exemplary of metallocenes, catalysts and polymerization processes which are within the scope of the instant claims.

8. Claims 1, 2, 8, 9, 20, 22, 23 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Jung et al. (WO 99/14219).

The reference shows in Example 7 the polymerization of ethylene using a catalyst comprising MAO and a metallocene comprising zirconium or hafnium and a bridged 3-substituted indenyl -fluorenyl ligand. Tables 1-6 and 8 show various ligand and bridge structures from the metallocenes used, and all of the combinations wherein R' is a hydrocarbyl or hydrocarbylsilyl group are within the claimed scope.

9. Claims 1, 3, 8, 9, 20, 22, 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Razavi et al. (WO 98/54230).

Example 4 and Tables 1 and 2 describe the polymerization of propylene in the presence of a catalyst comprising MAO and a metallocene within the scope of the claims (see Example 1 for metallocene synthesis).

10. Claims 1, 2, 8, 9, 20, 21, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Yano et al. (Macromol. Chem. Phys. 1999).

The reference describes in Examples H1-H5 and H7-H9 (pg. 1545) and L1-L3 (pg. 1548) the copolymerization of ethylene and 1-hexene using a catalyst comprising a borate salt and a metallocene within the claimed scope, including all claimed limitations.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 10, 21, 24 and 26-28 rejected under 35 U.S.C. 103(a) as being unpatentable over Jung et al. (WO 99/14219).

The parent claims are discussed with respect to this reference above. The only elements missing from the cited examples are a particle carrier and the use of two olefins. However, the reference has disclosed these embodiments at page 3, lines 10-16 and page 4, lines 16-24, respectively. One of ordinary skill in the art would be motivated to use these alternative embodiments because the reference authors have suggested that a useful polymerization process would result, with reasonable success expected.

13. Claims 10, 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Razavi et al. (WO 98/54230).

The parent claims are discussed with respect to this reference above. The only element missing from the cited examples is a particle carrier. However, the reference has disclosed this embodiment at page 7, second and third complete paragraphs. One

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of ordinary skill in the art would be motivated to use a particle carrier because the reference authors have suggested that a useful polymerization process would result, with reasonable success expected.

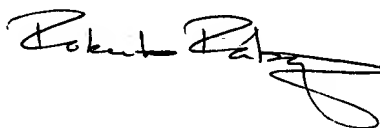
14. The references cited on the International Search Report have been considered.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rob Rábago whose telephone number is (703) 308-4347. The examiner can normally be reached on Monday - Friday from 7:30 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached at (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Rob Rábago  
Examiner  
Art Unit 1713



RR  
July 2, 2003